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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,285	09/26/2003	Yann Le Gallo	60,130-1867;01MRA0501	8180

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BIRMINGHAM, MI 48009

EXAMINER
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AZARIAN, SEYED H

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/672,285

Applicant(s)

GALLO ET AL..

Examiner

Seyed Azarian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date: 9/26/2003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.3218 may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-10, rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17, of U.S. Patent No. 7,067,794. Each of the limitation set forth in the claims of the instant application is defined in the claims of the patent.

As an example consider claim 1, 2, 3 and 5, of current application, compared to claim 1, 2, 3, 4 and 5, of U.S. Patent No. 7,067,794 Le Gallo disclose discloses. Claim 1, an obstruction detector comprising: a light sensor having a plurality of imaging elements; and a circuit that analyzes a distribution of light received by the light sensor, wherein the distribution of light defines a histogram of gray levels of the plurality of imaging elements, the circuit compares the histogram of gray levels of the distribution of light received by the sensor to a reference histogram to detect an obstruction in a path of the distribution of light received by the light sensor, and the circuit updates the reference histogram (column 6, lines 56-65).

Claim 2, the detector in claim 1, wherein the light sensor is a charge-coupled device sensor (column 6, lines 66-67).

Claim 3, the detector in claim 1, further including a lens in a path of the distribution of light received by the light sensor (column 7, lines 1-2).

Claim 4, the detector in claim 1, further including a light source to illuminate an area proximate to the light sensor (column 7, lines 3-4).

Claim 5, the detector in claim 4, wherein the light source is an infrared light source (column 7, lines 5-6).

The other claims have similar correspondence to the patent application.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-6 and 8-10, are rejected under 35 U.S.C. 102(e) as being anticipated by Breed et al (U.S. patent 6,856,873).

Regarding Claim 1, Breed discloses an object sensing system for a motor vehicle, comprising (column 1, lines 38-44, monitoring a vehicle using image processing);  
at least one optical sensor (column 12, lines 21-27, optical sensing system);

a lens that directs a first image of a first vehicle area and a second image of a second vehicle area toward said at least one optical sensor (column 25, lines 13-41, refer to first image and second image);

a display connected to said at least one optical sensor to display at least one of the first and second images (column 38, lines 10-23, the image displayed for operator to see).

Regarding Claim 2, Breed discloses the system of claim 1, wherein the lens directs the first and second images toward one optical sensor (column 48 line 42 through column 49, line 18, lens arrangement and adjustment for changing the images).

Regarding Claim 3, Breed discloses the system of claim 2, wherein the first and second images are directed to first and second areas, respectively, of the optical sensor (see claim 2, also (column 25, lines 13-41, refer to first image and second image)).

Regarding Claim 4, Breed discloses the system of claim 1, wherein said at least one optical sensor comprises at least a first optical sensor and a second optical sensor, and wherein the lens directs the first image to the first optical sensor and the second image to the second optical sensor (column 32, line 60 through column 33, line 11, plurality of optical sensors are used as in the preferred embodiment).

Regarding Claim 5, Breed discloses the system of claim 4, wherein the first optical sensor is sensitive to visible light and the second optical sensor is sensitive to infrared light (Fig. 1B, column 15, lines 9-15, using an infrared light, also column 29, lines 44-61, light frequencies, including infrared, visible and ultraviolet).

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Regarding Claim 6, Breed discloses the system of claim 1, wherein said at least one optical sensor is a charge coupled device sensor that is sensitive to both visible light and infrared light (column 29, lines 44-61, CCD, light frequencies, including infrared, visible and ultraviolet).

Regarding Claim 8, Breed discloses the system of claim 1, wherein the first and second images directed by the lens are contained in distinct solid angles (Fig. 1A and 1C, column 15, lines 16-21, refer to angle).

Regarding Claim 9, Breed discloses the system of claim 1, further comprising an image processing device, connected to said at least one sensor, wherein the image processing device generates a signal that indicate a presence of a foreign object in at least one of the first and second images (column 14, lines 20-36, generating a signal for monitoring objects).

Regarding Claim 10, Breed discloses the system of claim 9, wherein the image processing device detects the foreign object by detecting if a brightness of a portion at least one of the first and second images crosses a threshold (column 18, line 64 through column 19, line 26, refer to threshold, also column 24, lines 35-49, range of intensity).

### **Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 11-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al (U.S. patent 6,856,873) in view of Hopson et al (U.S. patent 6,308,461).

Regarding Claim 11, Breed discloses (column 35, lines 46-63, determination that there is an object in the path of a closing window as described below, the rule are sufficiently obvious that a trained researcher can look at the returned optical signals and devise an algorithm to make the required determination). But does not expressly state correspond to "a motor vehicle having a window lifter". On the other hand Hopson in the same field of monitoring the path of a window teaches (Fig. 1, column 1, line 55 through column 2, line 20, power window system 10, driver motor, control circuit 24 and switch 28, the window glass 18 as it is being driven upward, using motor 20, to generate a signal having a value proportional to the resistive force being applied to the window glass18).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to modify Breed invention according to the teaching of Hopson because it provides a control circuit that controls a driver motor to stop or reverse its direction to prevent damage or injury.

With regards to claims 12, 13, 14, the argument analogous to those presented for claims 2, 3 and 4 are applicable.

With regards to claims 15, 16 and 17, the argument analogous to those presented for claims 5, 6 and 9 are applicable.

With regards to claims 18, 19, 20 and 21, the argument analogous to those presented for claims 1 and 11 are applicable.

With regards to claims 22-26, the argument analogous to those presented for claims 1, 11, 3 and 18 are applicable.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al (U.S. patent 6,856,873) in view of Bichlmaier et al (U.S. patent 5,506,567).

Regarding Claim 7, Breed discloses the system of claim 1, wherein the first image corresponds to an area behind the vehicle and the second image corresponds to at least one of a vehicle handle area and a window trap area (see abstract camera can be arranged to obtained images of roof or ceiling, an interior environment and vehicle behind).

However regarding claim 17, Breed discloses for determination that there is an object in the path a closing window (column 35, lines 46-64), but does not expressly state corresponds to a window trap area. On the other hand Bichlmaier in the same field of monitoring the opening to an enclosed teaches (Fig. 2, column 3, lines 31-59, optical components 7, 8, 9, 10, of the optoelectronic unit are provided for each window, an spherical plano-convex, cylindrical lens is mounted in front of receiving diode).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made, to modify Breed invention according to the teaching of Bichlmaier because it provides detecting or monitoring of the opening space to prevent potential damage or injury, which can easily be implemented in an imaging device such as CCD or camera.

***Other prior art cited***

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. patent (6,947,577) to Stam et al is cited for vehicle lamp control.

U.S. patent (6,810,133) to Khairallah et al is cited for occupant sensing system and method via imaging.

U.S. patent (6,775,395) to Nishigaki et al is cited for object recognition system.

**Contact Information**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (571) 272-7443. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR.

Status information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seyed Azarian  
Patent Examiner  
Group Art Unit 2624  
January 1, 2007

